

a cavity formed at a lower end region of each of said projections, each of said cavities defined by (i) a lower opening, (ii) an upper ceiling region, and (iii) a sidewall extending between said lower opening and said upper ceiling region;

wherein said upper ceiling region defines a surface extending inwardly from said sidewall; and

an attraction source, operable at said projection end regions, effective to draw beads from said supply into said cavities and to releasably retain said beads therein.

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2. (Twice Amended) The system of claim 1, wherein at least a lower portion of said sidewall of each projection comprises a resiliently flexible material, such that said flexible lower portion of said sidewall can bend while maintaining the shape of said cavity so that said lower opening can bend to face said beads in said bead supply.

REMARKS

Consideration and allowance of the above-captioned patent application are respectfully requested. Claims 1 and 2 have been amended. Claims 1-25 and 48-62 are pending.

Claims Rejections - 35 U.S.C. §112

1. In the Office Action, claims 17, 21-25, and 51-59 stand rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This rejection is traversed.

In accordance with MPEP §2173.05(b), the fact that claim language, including terms of degree, may not be precise, does not automatically render the claim indefinite under 35 U.S.C. 112, second paragraph. *Seattle Box Co., v. Industrial Crating & Packing, Inc.* 731 F.2d 818, 221 USPQ 568 (Fed Cir. 1984). Acceptability of the claim language depends on whether one of ordinary skill in the art would understand what is claimed, in light of the specification.

The Examiner states in the Office Action that "[t]he terms 'large' and 'small' are not defined by the claim, the specification does not provide a standard for ascertaining the requisite

degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is not clear what applicant considers 'large' and 'small' openings."

With respect to claim 17, the term "smaller" is used to describe the relationship between the inner diameter of the lumen as compared to the diameter of the respective cavity at a location directly adjacent to the ceiling region. (See, for example, specification page 20, line 30 through page 21, line 4; page 22, lines 22-33; etc.). It is respectfully submitted that there is nothing ambiguous about the use of the term "smaller" in claim 17 and that one of ordinary skill in the art would understand that when compared to the diameter of the cavity at a location adjacent to the ceiling region, the lumen has a smaller inner diameter. Accordingly to the specification, the particular size of the cavity will generally be determined by the size of beads used with the system. However, as recited in the claim, the inner diameter of the lumen is smaller than the diameter of the cavity at a location directly adjacent to the ceiling region. Accordingly, withdrawal of this rejection is requested.

With respect to claims 21-25 and 51-59, the conduit assembly is described as having a plurality of conduits for separately channeling a plurality of submillimeter beads from the cavities to desired locations on a substrate. The conduits are further described as having "large" openings at their upper ends and "small" openings at their lower ends. The terms "large" and "small" are used to describe the relationship between the upper openings and the lower openings of the conduit assembly, respectively. (See, for example, page 33, line 30 through page 34, line 19, etc.). It is respectfully submitted that there is nothing ambiguous about the use of the term "small" and "large" in claims 21-25 and 51-59 and that one of ordinary skill in the art would understand that when a conduit assembly is utilized, it may be advantageous to have each conduit having a "large" upper opening and a "small" lower opening (relative to one another). (See specification, page 34, lines 12-14).

The use of the terms "large" and "small," when viewed in light of its plain and ordinary meaning and as used in the specification, would clearly and distinctly convey to one skilled in the art the relationship between the recited structure. Again, the terms "large," "small," and "smaller" are used throughout the specification (see, for example, specification page 20, line 30

through page 21, line 4; page 22, lines 22-33; page 33 line 30 through page 34, line 19; page 35, lines 4-27, etc.). Therefore, Applicants submit that one of ordinary skill in the art would understand what is claimed by the recited terms "large," "small," and "smaller" when viewed in light of the plain and ordinary meaning of those terms and in light of the specification.

Accordingly, withdrawal of the rejection of claims 17, 21-25, and 51-59 under 35 U.S.C. §112, second paragraph, is requested.

Claims Rejections - 35 U.S.C. §103

1. In the Office Action, claims 1-9 and 11-18 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Gavin et al. (WO 97/40383) in view of Ikeda et al. (JP 64-80862) or Sakai et al. (USP 4,937,048). The Office Action alleges that it would have been obvious to one of ordinary skill in the art at the time of invention was made to have included in the bead dispensing system of Gavin et al. the cavity region, as taught by Ikeda et al. or Sakai et al., in order to allow for greater contact between the lower end region of the projection supplying the suction source and the bead, thereby lowering the chance of dropping the bead prematurely. This rejection is respectfully traversed, as the cited art, taken alone or in combination, neither teaches nor suggests the claimed invention.

Gavin et al. disclose and teach a system and method for processing a plurality of solid supports (12) which preferably have chemical compounds synthesized thereon. The solid supports are held in a common storage location (10). At least some of the solid supports (24) are attracted from the storage location to selected areas within a defined receiving region (20) so that the solid supports which are attracted to the selected areas within the receiving region are separated and spaced apart from each other.

As described and shown by Gavin et al., a transfer member (16) having a proximal end (18) and a distal end (20) is positioned over reservoir (10). A lumen (22) extends between the proximal end and the distal end of the transfer member. *The lumen has a cross-sectional area which is smaller than the size of the solid support* (emphasis added). Gavin et al. further describe an embodiment having a cross-sectional area that is circular and of a size such that the lumen

diameter is smaller than the size of the solid support (emphasis added). (See page 10, lines 13-22 and Figures 1-4, 7-9, and 15-16).

An attraction force, such as a vacuum, is applied to the lumen to draw and retain a solid support onto the distal end of the lumen. Gavin et al. further state that the “[s]ince the size of the *lumen is smaller than the size of the solid support*, the vacuum will hold [the] solid support at [the] distal end”(emphasis added). (See page 10, line 23 through page 11, line 1).

Again, on page 13, lines 16-14, Gavin et al. describe another embodiment and the importance of the feature that the opening at the distal end of the lumen be smaller than the size of the solid support. Gavin et al. state that “[t]he *opening in distal end (62) is preferably smaller in size than the size of the beads* so that [the] beads will be prevented from passing through the capillary tubes” (emphasis added). Gavin et al. go on to say that “[t]he opening in [the] distal end is configured to be large enough so that sufficient suction pressure may be provided to hold a bead against [the] distal end. For example, in the case where the beads have a mean size in the range from about 100 μ m to about 200 μ m, [the] distal end will preferably have an opening with a size in the range of about 40 μ m to about 80 μ m.”

So, not only do Gavin et al. not disclose or teach a cavity formed at a lower end region of a projection of a bead dispensing for drawing beads to be dispensed, Gavin et al. actually teach away from using an opening having a size that is bigger than the size of the bead that is to be dispensed.

As the Office Action admits, Gavin et al. do not disclose or teach the use of a cavity formed at a lower end region of each of the projections, each of the cavities defined by a lower opening and an upper ceiling region, and a sidewall extending between the lower opening and the upper ceiling region.

The Ikeda et al. reference does not cure the deficiencies of the Gavin et al. reference. Ikeda et al. disclose a method for moving spherical carrier for antigen-antibody reaction. The method taught by Ikeda et al. functions to prevent contamination by a cleaning liquid that co-exists with a bead by striking a spherical carrier (e.g., the bead) against a sidewall of a vessel and dislodging the carrier while maintaining a negative pressure in a suction nozzle at the time of the

dropping of the spherical carrier attracted to the tip of the suction nozzle into another vessel. The dropping of the cleaning fluid remaining in the nozzle is prevented by maintaining a negative pressure state in the nozzle.

As disclosed and taught by Ikeda et al., a bead 6, which co-exists with a cleaning liquid is taken out and held attached to a suction nozzle 2. The bead 6 is then moved to above another vessel 5 and is inserted into position where the spherical center 6a of the bead 6 enters the inside of the vessel 5 from the top end 5a and the tip 2a of the nozzle 2 does not come into contact with the top end 5a of the vessel 5.

Ikeda et al. disclose and teach several embodiments, including several embodiments that do not include a cavity formed at a lower end region of the projection (see Figures 1, 2, 3, 4(2), 4(3), and 5) and one embodiment that has a flared tip 2a on nozzle 2. However, the flared tip 2a of Ikeda et al. does not include an upper ceiling region wherein the upper ceiling region defines a surface extending inwardly from the sidewall. Also, Ikeda et al. do not disclose or teach a cavity dimensioned to receive at least half of one submillimeter bead, and to preclude entry therein of a substantial portion of a second such bead. In addition, Ikeda et al. do not teach or suggest a cavity having a substantially constant diameter along a region extending between its lower opening and its upper ceiling region.

The Sakai et al. reference does not cure the deficiencies of the Gavin et al. reference. Sakai et al. disclose a carrier transporting apparatus and carrier container for use in an immunological analysis. In one embodiment, shown and described with reference to Figure 13 of Sakai et al., the carrier transporting apparatus comprises a hopper 213 for holding a number of carriers 212. A suction nozzle 218 having an elastic mouth portion 217 is arranged movably between the carrier suction position in the carrier container 211. The suction nozzle 218 is moved to the carrier suction position through the vertical duct 215, so that the elastic mouth portion 217 is brought into contact with the carrier 212.

As shown and described, the elastic mouth portion 217 disclosed and taught by Sakai et al. does not include an upper ceiling region wherein the upper ceiling region defines a surface extending inwardly from the sidewall. Also, Sakai et al. do not disclose or teach a cavity

dimensioned to receive at least half of one submillimeter bead, and to preclude entry therein of a substantial portion of a second such bead. In addition, Sakai et al. do not teach or suggest a cavity having a substantially constant diameter along a region extending between its lower opening and its upper ceiling region.

In addition, Applicants disagree with the Examiner allegations that Figure 11A, showing an arm 122 having a carrier holding member 124 which can hold a carrier 127 arranged at its tip makes obvious the recited projections having a cavity formed in the lower end region. The holding members 124 disclosed by Sakai et al. do not define a cavity as recited in the pending claims.

Specifically with respect to claim 1 of the present application, it is respectfully submitted that this flared tip disclosed by Ikeda et al. and the elastic mouth portion disclosed by Sakai et al. are not a cavity as recited in the claims of the present application. The spherical carrier disclosed and taught by Ikeda et al. and the mouth portion of Sakai et al. do not include *“a cavity formed at a lower end region of each of said projections, each of said cavities defined by (i) a lower opening, (ii) an upper ceiling region, and (iii) a sidewall extending between said lower opening and said upper ceiling region, wherein said upper ceiling region defines a surface extending inwardly from said sidewall,”* as recited in amended claim 1 of the present application.

With respect to claims 2, 12, and 13, Gavin et al., Ikeda et al., and Sakai et al. do not disclose or teach a plurality of projections having a cavity formed at a lower end region of each projection wherein *“at least a lower portion of said sidewall of each projection comprises a resiliently flexible material, such that said flexible lower portion of said sidewall can bend while maintaining the shape of the cavity so that said lower opening can bend to face said beads in said bead supply,”* as recited in amended claim 2 (and claims 12 and 13 which depend from claim 2). Support for this amendment can be found on page 26, lines 1-10 of the specification.

With respect to claim 3, Gavin et al., Ikeda et al., and Sakai et al. do not teach or suggest the unique characteristics of the shape of the cavity that is claimed in claim 3, which *“wherein each cavity has a substantially constant diameter along a region extending between said lower*

opening and said upper ceiling region, such that lines extending longitudinally along confronting inner surfaces of each sidewall are substantially parallel to one another.”

With respect to claims 4 and 5, Gavin et al. and Ikeda et al. do not teach or suggest the relationship between the dimensions of the diameter of the lower opening the longitudinal length of the sidewall. In fact, although Ikeda et al. show a flared tip 2a and Sakai et al. show an elastic mouth portion, these references do not show varying dimensions of this feature in any of the figures and also does not mention this feature at all in the abstract/constitution or specification and therefore, it is respectfully submitted that Ikeda et al. and Sakai et al. do not teach the features recited in claims 4 and 5 of the present application.

With respect to claim 6, Gavin et al., Ikeda et al., and Sakai et al. do not teach or suggest the limitation of claim 6 which recites “*wherein said cavity is dimensioned to receive at least half of one submillimeter bead, and to preclude entry therein of a substantial portion of a second such bead.*” Although Figures 4(1) of Ikeda et al. does not show a bead 6 in the flared tip 2a, it is respectfully submitted that the spherical carrier of Ikeda et al. would not work for its stated purpose if flared tip 2a was sized to receive at least half of a bead because, as described in Ikeda et al., the bead 6 is dislodged from the tip 2a of the nozzle 2 by moving the nozzle and striking the bead 6 against the inside wall of the vessel 5. This stated functionality of Ikeda et al. would not work and the bead could not be dislodged from the nozzle if the flared tip were sized to receive at least half of the bead. Likewise, the elastic mouth portion 217 taught by Sakai et al. is also sized to only receive a top portion of a carrier. Accordingly, Ikeda et al. and Sakai et al. do not teach or suggest a system for picking up a plurality of submillimeter beads from a bead supply wherein “*said cavity is dimensioned to receive at least a half of one submillimeter bead, and to preclude entry therein of a substantial portion of a second such bead,*” as recited in claim 6.

In fact, Ikeda et al. actually teach away from this feature recited in claim 6 of the present application. As stated earlier, Ikeda et al. teach a method where the “bead 6 is moved to above another vessel 5 and is inserted into position where the spherical center 6a of the bead 6 enters

the inside of the vessel 5 from the top end 5a and the tip 2a of the nozzle 2 does not come into contact with the top end 5a of the vessel 5.”

With respect to claims 7-9, and 11, these claim all depend from amended claim 1, which is non-obvious over the art of record for the reasons stated above. Accordingly, these claims are also non-obvious over the art of record.

With respect to claim 14, Ikeda et al. and Sakai et al. do not teach or suggest a system wherein “*said cavity is formed by a resiliently flexible, tubular sleeve fit over the end of a respective projection . . .*,” as recited in claim 14. Gavin et al. also do not teach or suggest this feature.

With respect to claims 15-18, Gavin et al., Ikeda et al., and Sakai et al. do not teach or suggest a system wherein “*each of said projections is a capillary tube having an axial lumen extending therethrough, each lumen having (i) a first end that opens into a respective one of said cavities through said ceiling region, and (ii) a second end disposed in fluid communication with a pressure-control assembly,*” as recited in claims 15-18.

Accordingly, it is respectfully submitted that the bead dispensing system described in the specification and recited in the pending claims of the present invention is not disclosed, taught, or suggested by the cited art taken either alone or in combination, and that, therefore, the present invention would not have been obvious, based on the disclosure and teachings of Gavin et al., Ikeda et al. and/or Sakai et al. Accordingly, withdrawal of the rejection of claims 1-9 and 11-18 under 35 U.S.C. §103(a) is requested.

2. The Office Action states that “claim 10 is rejected under 35 U.S.C. §103(a) as being unpatentable over Gavin et al. in view of Ikeda et al. or Sakai et al., as applied to claim 1 above, and further view of Ekenberg et al. (U.S. 5,272,510).” Again, Applicants will assume that “Ekenberg et al.” presumably refers to U.S. 5,567,326. In the Office Action, the Examiner alleges that it would have been obvious to one of ordinary skill in the art at the time of the invention to have included in the bead dispensing system of Gavin et al., Ikeda et al. or Sakai et al. a pivotal frame, as taught by Ekenberg et al., in order to allow for the separation of the

magnetic particles from the test media to be carried out simultaneously or sequentially, as desired. This rejection is respectfully traversed.

The Gavin et al., Ikeda et al., and Sakai et al. references are discussed in detail above. As indicated by the Examiner in the Office Action, Gavin et al., Ikeda et al., and Sakai et al. fail to teach a bead dispensing system having a support which is held by a frame that is adapted to pivot about a vertical axis, rendering movable the projection array along a generally arcuate or circular pathway, and adapted for reciprocal linear motion along a generally vertical pathway, wherein such movement permits the projections to be aligned with the ampule array and lowered so that each projection can enter a respective one of the ampules.

Claim 10 depends from amended claim 1 which, for the reasons stated above, is non-obvious over the art of Gavin et al. in view of Ikeda et al. or Sakai et al. For this reason alone, it is respectfully submitted that claim 10, which depends from amended claim 1 is also non-obvious over Gavin et al. in view of Ikeda et al. or Sakai et al., and further in view of Ekenberg. Therefore, withdrawal of the rejection of claim 10 under 35 U.S.C. §103(a) is requested.

Furthermore, Ekenberg et al. disclose a multi-sample magnetic separation device 20. As described in Ekenberg et al., the apparatus and method provide for separating magnetically responsive particles from a nonmagnetic test medium in which the magnetically responsive particles are suspended. The separator 20 comprises a container 24 (e.g., a plurality of multi-well chambers) which hold the nonmagnetic test medium, one or more pins 28 disposed substantially within the test medium, an element or pin plate 30 for holding the containers, and an external magnet 34 for producing a magnetic field within the test medium. The external magnet is proximate the pins so as to create magnetic flux lines, magnetizing the pins and creating a magnetic field substantially parallel to the longitudinal axis of the pins thereof in the test medium. The container holding the test medium is positioned in the separator, producing a magnetic field operative to cause the magnetically responsive particles to be attracted to and adhere to the pins and which is substantially parallel thereto. The nonmagnetic test medium is separated from the magnetized particles, which may conveniently be washed while adhered to the pins, and subjected to further analysis, preferably while on the pins. The apparatus is useful

in separating various target substances from test media by means of substances coated on the magnetic particles which bind specifically to the target substance.

Ekenberg et al. disclose a pin plate 30 that supports the pins 28 in a fixed position and also serves as a cover for the open tops of containers 24. (See col. 8, lines 66-67). As shown in Figure 2 and 7, end 54 of pin plate 30 is hingedly attached to base 32. End 64 of base 32 has two hinges 74a and 74b, disposed on opposite sides of end 64 for plate 30. End 54 of plate 30 has a pair of opposing pins or rods 82a and 82b extending from each side of plate 30. Channels 80 of base 32 receive rods 82a and 82b of plate 30 completing the hinges 74a and 74b. (See col. 9, lines 8-31). In operation, the magnetic pack 34 is placed on top of pin plate 30 and one end 44 of the pins 28 are immersed in the test medium 26 by rotating pin plate 30 about a horizontal axis of hinges 74a and 74b.

Contrary to the assertion by the Examiner in the Office Action, Ekenberg et al. do not disclose or teach a system wherein *“said support is held by a frame that is (i) adapted to pivot about a substantially vertical axis, rendering movable said projection array along a substantially arcuate or circular pathway; and (ii) adapted for reciprocal linear motion along a substantially vertical pathway; such movement permitting said projections to be aligned with said ampule array and lowered so that each projection can enter a respective one of said ampules,”* as recited in claim 10. None of the Gavin et al., Ikeda et al., Sakai et al., or Ekenberg et al. references disclose or teach any such feature. Accordingly, withdrawal of this rejection under 35 U.S.C. §103(a) is requested for this additional reason.

3. In the Office Action, claims 19-20 and 48-50 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Gavin et al. in view of Ikeda et al. or Sakai et al., as applied to claim 1 above, and further view of Hassler et al. (WO 97/38318). In the Office Action, the Examiner alleges that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in the bead dispensing system of Gavin et al., Ikeda et al., Salai et al. the optical system, as taught by Hassler et al., in order to form a device that is very compact and space-saving. This rejection is respectfully traversed.

Claims 19-20 and 48-50 depend from amended claim 1, which for the reasons stated above is non-obvious over the art of record. Accordingly, it is respectfully submitted that claims 19-20 and 48-50 are also non-obvious because they depend from amended claim 1.

4. In the Office Action, claims 21-25, 55, and 57-59 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Gavin et al. in view of Ikeda et al. or Sakai et al., as applied to claim 1 above, and further view of Kambara et al. (U.S. 6,288,220). In the Office Action, the Examiner alleges that it would have been obvious to one of ordinary skill in the art at the time of the invention to have included in the bead dispensing system of Gavin et al., Ikeda et al., and Sakai et al. a plurality of conduits, as taught by Kambara et al., in order to assure that the beads will fall into the proper test receptacle well and thereby eliminate the problem of transfer and delivery of the units between the transfer device and the rest receptacle tray when the tray has been miniaturized. This rejection is respectfully traversed.

Claims 21-25, 55, and 57-59 depend from amended claim 1 which for the reasons stated above is non-obvious over the art of record. Therefore, it is respectfully submitted that claims 21-25, 55, and 57-59 are also non-obvious because they depend from amended claim 1. Accordingly, withdrawal of the rejection of claims 21-25, 55, and 57-59 under 35 U.S.C. §103(a) is requested.

5. In the Office Action, claims 21-24, 51, 54, and 57-59 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Gavin et al. in view of Ikeda et al. or Sakai et al., as applied to claim 1 above, and further view of Carre et al. (EP 955 084 A1). In the Office Action, the Examiner alleges that it would have been obvious to one of ordinary skill in the art at the time of the invention to have included in the bead dispensing system of Gavin et al., Ikeda et al., and Sakai et al. a plurality of conduits, as taught by Carre et al., in order to allow for the transfer of beads from a multiwell plate having any number of wells to a plate having a large number of wells per area. This rejection is respectfully traversed.

Claims 21-24, 51, 54, and 57-59 depend from amended claim 1 which for the reasons stated above is non-obvious over the art of record. Therefore, it is respectfully submitted that claims 21-24, 51, 54, and 57-59 are also non-obvious because they depend from amended claim 1. Accordingly, withdrawal of the rejection of claims 21-24, 51, 54, and 57-59 under 35 U.S.C. §103(a) is requested.

6. In the Office Action, claims 21-24, 51, 54, and 57-59 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Gavin et al. in view of Ikeda et al. or Sakai et al., as applied to claim 1 above, and further view of Carre et al. (EP 955 084 A1). In the Office Action, the Examiner alleges that it would have been obvious to one of ordinary skill in the art at the time of the invention to have included in the bead dispensing system of Gavin et al., Ikeda et al., and Sakai et al. a plurality of conduits, as taught by Carre et al., in order to allow for the transfer of beads from a multiwell plate having any number of wells to a plate having a large number of wells per area. This rejection is respectfully traversed.

Claims 21-24, 51, 54, and 57-59 depend from amended claim 1 which for the reasons stated above is non-obvious over the art of record. Therefore, it is respectfully submitted that claims 21-24, 51, 54, and 57-59 are also non-obvious because they depend from amended claim 1. Accordingly, withdrawal of the rejection of claims 21-24, 51, 54, and 57-59 under 35 U.S.C. §103(a) is requested.

In addition, Carre et al. do not disclose or teach *"a pair of spaced apart indexing holes, each being aligned with a respective indexing pin depending from a lower side of said conduit array,"* as recited in claim 54 of the present application. For this additional reason, it is respectfully submitted that claim 54 is not obvious.

7. In the Office Action, claims 60-62 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Gavin et al. in view of Ikeda et al. or Sakai et al., as applied to claim 1 above, and further view of Gorlich et al. (U.S. 5,447,736). In the Office Action, the Examiner alleges that it would have been obvious to one of ordinary skill in the art at the time

of the invention to have included in the bead dispensing system of Gavin et al., Ikeda et al., and Sakai et al., a covering means, as taught by Gorlich et al., in order to assure the container will maintain an inert atmosphere until needed. This rejection is respectfully traversed.

Claims 60-62 depend from amended claim 1 which for the reasons stated above is non-obvious over the art of record. Accordingly, it is respectfully submitted that claims 60-62 are also non-obvious because they depend from amended claim 1.

Furthermore, Gorlich et al. do not teach or suggest the invention of claims 60-62 for the following additional reasons.

The Gavin et al., Ikeda et al., and Sakai et al. references are described in detail above. As admitted in the Office Action, Gavin et al., Ikeda et al., and Sakai et al. do not teach a covering system comprising a continuous web of cover material mounted for reciprocal linear motion along a direction substantially normal to the web for cutting the cover material at a region between the supply position and the take-up position.

Gorlich et al. disclose a method of packaging a food product employing a tray having side walls defining a cavity in an outwardly directed flange extending around the perimeter of the tray, the flange being adapted to receive a pair of membranes to enclose the tray.

As shown and described by Gorlich et al., each membrane 14, 16 is unwound from a pair of rolls 30, 32 and 36, 38, respectively. Accordingly, as taught by Gorlich et al. there is no take-up position.

In contrast, the invention of the present application claims a covering system for covering said beads after said beads have been disposed at said desired locations on a substrate, wherein said desired locations comprise an array of wells formed in said substrate. The covering system comprises "a continuous web of a cover material mounted for movement from a supply position to a *take-up position*; a shearing blade mounted for reciprocal linear motion along a direction substantially normal to said web for cutting a portion of said cover material at a region between said supply position and said take-up position," as recited in claim 60. Therefore, it is submitted that claim 60 is not obvious in view of the cited prior art (nor are claims 61 and 62 which depend from claim 60).

Accordingly, it is respectfully submitted that the bead dispensing system described in the specification and recited in the pending claims of the present invention, are not disclosed nor taught, either alone or in combination, and that, therefore, the present invention would not have been obvious, based on the disclosure and teachings of Gavin et al., Ikeda et al., Sakai et al., and/or Gorlich et al. Accordingly, for these additional reasons withdrawal of the rejection of claims 60-62 under 35 U.S.C. §103(a) is requested.

Allowable Subject Matter

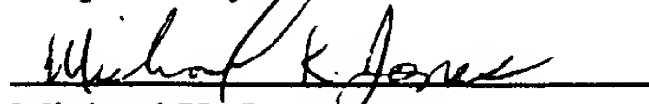
The Office Action states that claims 53 and 56 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in the Office Action and to include all of the limitations of the base claim and any intervening claims. Applicants appreciate the Examiner's indication of this allowable subject matter. However, in view of the amendments and remarks above, it is respectfully submitted that these claims are also in condition for allowance because they depend indirectly from amended claim 1. Accordingly, withdrawal of the objection to claims 53 and 56 is solicited.

CONCLUSION

Applicants believe that the foregoing is a full and complete response to the Office Action of record. Accordingly, an early and favorable consideration and allowance of all of pending claims 1-25 and 48-62 are respectfully requested.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached pages are captioned "**VERSION WITH MARKINGS TO SHOW CHANGES MADE.**"

Respectfully submitted,



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